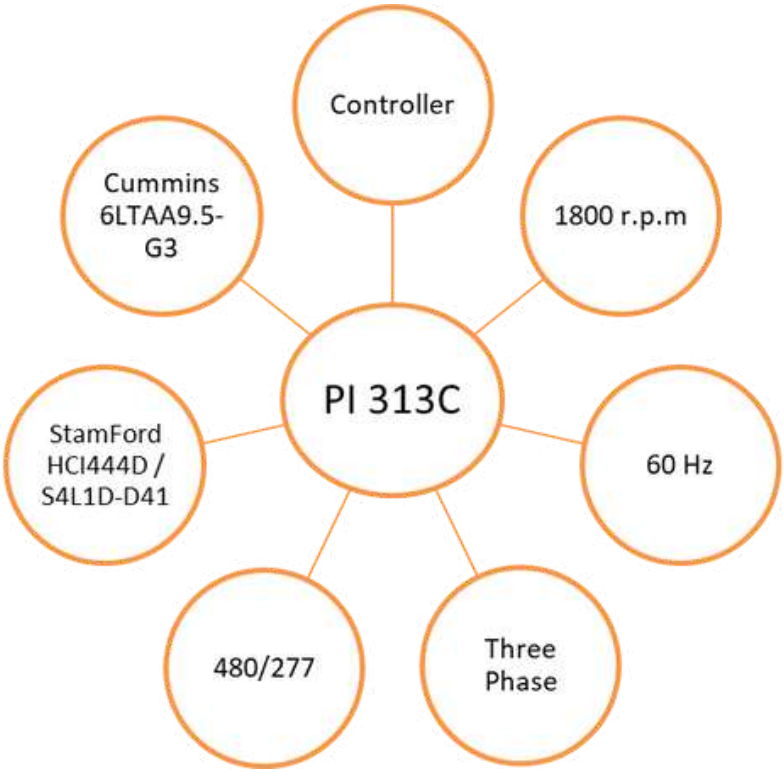



Mechanical Power driven by : Cummins

- Manufactured in facilities certified with ISO 9001:2015, ISO 14001:2015 & OHSAS18001:2007.
- Manufactured in accordance to 8528-1 to 12.
- Engine performance according to ISO 3046, BS 5514, DIN 6271.
- Alternator performance according to NEMA-MG1, BS 5000, DIN EN, relevant ISO, IEC60034.

High Performance Industry
شـــركة الأداء العالـــي للصناعـــة
Power Generators

ISO 9001:2015 ISO 14001:2015 ISO 45001:2018

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# PI 313C

## Industrial Generating Set

POWERED BY Cummins

| MODEL | rpm / Hz | VOLTAGE | PRIME (1) | STANDBY (2) |
|---|---|---|---|---|
| PI 313C | 1800 / 60 | 480 / 277 | 284.0 kVA / 227.0 kWe | 313.0 kVA / 250.0 kWe |

## ENGINE SPECIFICATIONS

| | |
|---|---|
| Rated Output (PRP) (1) | 265 $kW_m$ |
| Rated Output (ESP) (2) | 290 $kW_m$ |
| Engine Make & Model | Cummins 6LTAA9.5-G3 |
| No. of Cylinders | 6 Cylinder |
| Cycle | 4 Strokes |
| Aspiration | Turbocharged and Charge Air Cooled |
| Cooling Method | Water |
| Governing Type | Electronic |
| Governing Class | G2 - ISO 8528 Part 1 |
| Compression Ratio | 16.6 : 1 |
| Displacement | 9.5 L (579 $in^3$) |
| Bore/Stroke (mm / in) | (116/148)/(4.58/5.82) |
| Battery and Charger Alternator | 24 VDC, 70 Amp |

## AIR SYSTEM

| | |
|---|---|
| Air Filter Type | Dry Element |
| Combustion Air Flow (PRP) | 19.56 $m^3$/min |
| Combustion Air Flow (ESP) | 20.52 $m^3$/min |
| Radiator Air Flow | 600 $m^3$/min |

## COOLING SYSTEM

| | |
|---|---|
| Total Coolant Capacity | 55.5 L /14.66 US gal |
| Water Pump Type | Centrifugal Eng-Driven |
| Radiator Fan Load | 15 kW |
| Heat Radiation to Room (PRP) | 26 Kw |
| Heat Radiation to Room (ESP) | 29 kW |

## LUBRICATION SYSTEM

| | |
|---|---|
| Oil Filter Type | Spin on full flow filter |
| Total Oil Capacity | 32.4 L / 8.6 US gal. |
| Oil Pan | 27.1 L /7.2 US gal. |
| Oil Type | API CH4/CI4; SAE 15W-40 |

## FUEL SYSTEM

Fuel Filter: Spin on full flow filter with water separator

| | |
|---|---|
| Recommended Fuel | Class A2 Diesel |
| Fuel Consumption Standby | 70.0 L/hr / 18.6 US gal/hr |
| Fuel Consumption 100% PRP | 63.0 L/hr / 16.7 US gal/hr |
| Fuel Consumption 75% PRP | 46.0 L/hr / 12.1 US gal/hr |
| Fuel Consumption 50% PRP | 31.0 L/hr / 8.3 US gal/hr |

## EXHAUST SYSTEM

| | |
|---|---|
| Muffler Type | Industrial Grade |
| Max. Back Pressure | 10.2 kPa |
| Exhaust Gas Flow (PRP/ESP) | 44.82 / 49.2 $m^3$/min |
| Exhaust Gas Temperature (PRP/ESP) | 470 / 506 ˚C |

## ALTERNATOR SPECIFICATIONS

| | |
|---|---|
| Rated Output (Prime) (1) | 375 kVA |
| Rated Output (Stand by) (2) | 415 kVA |
| Alternator Make & Model | Stamford HCI444D / S4L1D-D41 |
| Number of Poles | 4 |
| Number of Winding Leads | 12 |
| Type of Bearing | Single |
| Insulation Class / Temp Rise | H / H |
| Efficiency | 92.8% |
| Ingress Protection Rating | IP 23 |
| Excitation System | Self Excited |
| AVR Model | Stamford - AS440 |

## ALTERNATOR OPERATING DATA

| | |
|---|---|
| Overspeed | 2250 r.p.m |
| Voltage Regulation | ± 1.0 % |
| Wafeform distortion | No load <1.5%<br>Linear load <5% |
| Radio Interface | Standard EN61000-6-2:2001 |
| Cooling Air Flow | 0.99 $m^3$/sec |

(1) **PRIME POWER RATING (PRP):** PRP is defined as the maximum power which a Generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year. The permissible average power output over 24 hours shall not exceed 70% of PRP unless otherwise agreed by RIC engine manufacturer. An overload capability of 10% of 100% of the prime rated electrical power is permitted for emergency use for a period of 1 hour within 12 hours of operation

(2) **EMERGENCY STANDBY POWER RATING (ESP):** ESP is defined as the maximum power available during a variable electrical power sequence, under the stated operation condition, for which a generating set is capable of delivering power in the event of a utility power outage or under test condition for up to 200 Hours of operation per year. The permissible average output over 24 hour of operation shall not exceed 70 % of the ESP power rating noting that no over load is permitted.

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# PI 313C

## Industrial Generating Set

POWERED BY Cummins

## CONTROLLER SPECIFICATIONS

| | |
|---|---|
| Controller Make & Model | DeepSea 6120 |
| Operation Mode | MRS / AMF (optional) |
| Display | Graphic Back-lit LCD (128x64) pixles |
| Ingress Protection Rating | IP65 |
| Binary Inputs/Outputs | 6 / 4 |
| Analog Inputs | 4 |
| Measurement | Vac, A, Hz, kVA, kW, Vdc |
| Event Log | Alarms log, Hrs log |
| Communication | USB |

## ENCLOSURE SPECIFICATIONS

| | |
|---|---|
| Enclosure Type | Acoustic & Weather Proof |
| Anticorrosive Protection | |
| Polyester Powder Coated Galvanized Sheet | |
| Ingress Protection Rating | IP23 |
| Lifting | ISO Standard Lifting |
| Emergency | External Emergency Push Button |
| Canopy RAL Color | RAL 2000 |
| Baseframe RAL Color | RAL 9011 |
| Noise Pressure level @ 7m | 77.2 dB(A) |

## GENSET DIMENSIONS & WEIGHT

| GENSET TYPE | Length (mm) | Width (mm) | Height (mm) | Fuel Tank Capacity (L) | Dry Weight (kg) | Wet Weight (kg) |
|---|---|---|---|---|---|---|
| **OPEN** | 2850 | 1145 | 2042 | 664 | 2400 | 2450 |
| **CLOSE** | 4411 | 1464 | 2219 | 720 | 3250 | 3300 |

## STANDARD MECHANICAL FEATURES

- Genset design provides a low noise level with an optimized performance of the ventilation and exhaust systems at 50 ºC ambient temperature.
- Robust structure design of Enclosure and Baseframe.
- Heavy duty lifting lugs.
- Multi doors for easy access & maintenance.
- Ingress Protection Rating according to BS EN 60529.
- Heavy Duty Baseframe with built-in tank & forklift pockets.
- Industrial Grade Muffler with rain cap.

## STANDARD ELECTRICAL FEATURES

- An advance Control system is designed to provide a comprehensive protection and to monitor the parameters of generating set.
- MCCB power circuit breaker.
- Battery with charging alternator, cables, and tray.
- Sealed harness & high resistant electrical connections.
- Fast and accurate protection response.
- Generating Set remote start function.
- Numeric display with LED. Various languages capable.

## OPTIONAL FEATURES

- Advanced Controllers are available on request.
- 4 poles manual / Motorized Circuit breaker
- Jacket water pre-heater
- Static Battery Charger
- Residential / Critical grade muffler
- Fuel Filter / Water separator Fuel Filter
- Remote Annunciator

## Application

Infrastructure, Industrial, Residential, Telecom, Defence, Mining, Agriculture,

High Performance Industry شركة الأداء العالي للصناعة
Power Generators

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